

Title (en)
PROCESS AND PLANT FOR PRODUCING HYDROGEN USING HYDROGEN BROMIDE ELECTROLYSIS

Title (de)
VERFAHREN UND ANLAGE ZUM PRODUZIEREN VON WASSERSTOFF UNTER VERWENDUNG VON BROMWASSERSTOFFELEKTROLYSE

Title (fr)
PROCÉDÉ ET INSTALLATION DE PRODUCTION D'HYDROGÈNE PAR ÉLECTROLYSE DE BROMURE D'HYDROGÈNE

Publication
EP 4311867 A1 20240131 (EN)

Application
EP 22186624 A 20220725

Priority
EP 22186624 A 20220725

Abstract (en)
A process for producing hydrogen comprises the following steps:a) providing a starting mixture containing bromine, water and a sulfur containing compound,b) reacting the starting mixture provided in step a) so as to produce a reaction mixture effluent comprising sulfuric acid and hydrogen bromide,c) separating the reaction mixture effluent obtained in step b) into one or more hydrogen bromide enriched compositions and into one or more sulfuric acid enriched compositions, wherein at least one hydrogen bromide enriched composition contains at most 1,000 ppm of sulfuric acid,d) subjecting at least a portion of the at least one hydrogen bromide enriched composition containing at most 1,000 ppm of sulfuric acid obtained in step c) to an electrolysis so as to obtain hydrogen and a bromine containing composition, ande) recycling at least a portion of the bromine containing composition obtained in step d) back to step a).

IPC 8 full level
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Citation (search report)
• [X] US 2005026008 A1 20050203 - HEATON HARLEY L [US], et al
• [X] WO 2021177931 A1 20210910 - PODOLSKYI ANTON [UA]
• [A] US 5411641 A 19950502 - TRAINHAM III JAMES A [US], et al

Designated contracting state (EPC)
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